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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,267	03/23/2004	Takashi Ohno	KKP-0276	1916

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/806,267	Applicant(s) OHNO, TAKASHI	
	Examiner Callie E. Shosho	Art Unit 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/15/04&amp;3/23/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

**Claim Rejections - 35 USC § 112**

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4, 6, and 7-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Claim 4 recites the “molecular weight” of the acrylic resin. The scope of the claim is confusing because it is not clear what molecular weight this refers to – weight average, number average, etc.

(b) Claim 6, which depends on claim 1, is drawn to “ball-point pen” while claim 1 is drawn to a “water based ink”. Thus, the scope of the claim is confusing because it is not clear what is being claimed an ink or a ball-point pen. Clarification is requested.

(c) Claim 11 recites that the ball-point pen is “adapted for use on a non-permeable writing surface”. The scope of the claim is confusing because it is not clear what is meant by “adapted for use” or how a pen is “adapted for use” on a particular substrate. Are changes made to the structure of the pen? Clarification is requested.

**Claim Rejections - 35 USC § 102**

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Allison et al. (U.S. 6,160,034) taken in view of the evidence given in Hattori et al. (U.S. 2005/0096410).

Allison et al. disclose ink for roller ball pen wherein the ink comprises 10-90% water, pigment, 15-30% water-soluble latex including acrylic latex, and 3-8% C<sub>2</sub>-C<sub>4</sub> alcohol. It is disclosed that the ink has viscosity of 3-10 cP (col.1, lines 11-15, col.3, lines 6-29, col.7, lines 46-59, col.9, line 65-col.10, line 18, col.11, lines 40-45, col.12, lines 10-12, and col.17, lines 38-42). It is well known, as found in Hattori et al. (paragraphs 6-9), that ethanol, propanol and butanol possess vapor pressure of 45 mmHg or 6 kPa, 14.5 mmHg or 1.93 kPa, and 5.5 mmHg or 0.67 kPa, respectively.

In light of the above, it is clear that Allison et al. anticipate the present claims.

5. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Ota et al. (U.S. 6,916,862) taken in view of the evidence given in Hattori et al. (U.S. 2005/0096410).

Ota et al. disclose ink for ball point pen wherein the ink comprises water, 2-10% pigment, 0.1-30% lower alcohol wetting agent such as ethanol, propanol, and butanol, and acrylic resin for fixability possessing glass transition temperature not lower than 50 °C, molecular wt of 1,600-50,000, and acid value of 10-250. It is disclosed that the resin is present in

amount not lower than 1/10 of to not higher than 3 times the amount pigment so that it is calculated that the ink comprises 0.02-30% resin. It is disclosed that the viscosity of the ink is not higher than 10 mPas. It is further disclosed that the ink is printed onto non-permeable substrate, i.e. gloss film (col.1, line 24, col.5, lines 45-51, col.7, lines 26-29, col.13, lines 15-19, col.14, lines 1-27, col.20, lines 22-26, col.23, lines 45-51, col.26, lines 21-25 and 62-63, example 10, and col.65, lines 48-51). It is well known, as found in Hattori et al. (paragraphs 6-9), that ethanol, propanol and butanol possess vapor pressure of 45 mmHg or 6 kPa, 14.5 mmHg or 1.93 kPa, and 5.5 mmHg or 0.67 kPa, respectively.

In light of the above, it is clear that Ota et al. anticipate the present claims.

6. Claims 1-3, 6-7, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Wang et al. (U.S. 5,769,931) taken in view of the evidence given in Hattori et al. (U.S. 2005/0096410).

Wang et al. disclose ink for ball point pen comprising 20-90% water, 20-60% solvent including alcohol such as propyl alcohol, 1-10% acrylic resin that binds the colorant, and 2-10% pigment. It is disclosed that the viscosity of the ink is less than 50 cP. It is disclosed that the total solvents comprise 30-80% water. It is disclosed that the ball-point pen comprises ink contained in a tube or reservoir wherein the ink is fed directly to the ball of the pen. It is further disclosed that the ink is used in combination with ink follower (col.1, lines 5-7 and 55-61, col.2, line 21, col.3, lines 10, 20, and 41-52, col.4, lines 35-43, and col.5, lines 1-20). It is well known, as found in Hattori et al. (paragraphs 6-9), that propanol possesses vapor pressure of 14.5 mmHg or 1.93 kPa.

Although there is no explicit disclosure that the pen contains pen tip that rotatably supports the ball across a tip holder as presently claimed, given that Wang et al. disclose the use of ball-point pen, it is clear that such pen would inherently and necessarily comprise such components.

In light of the above, it is clear that Wang et al. anticipate the present claims.

7. Claims 1-3, 5-7, and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 964036 taken in view of the evidence given in Hattori et al. (U.S. 2005/0096410).

EP 964036 discloses ink for ball-point pen wherein the ink comprises 2-15% pigment, 5-35 % alcohol such as ethanol, propanol, and butanol, 10-80% water, and 1-30% acrylic resin to enhance adhesion of the ink to paper. It is disclosed that the ink possesses viscosity of 20-200 mPas. It is disclosed that the ball-point pen has tip comprising a ball holder, ball held in the holder wherein the ball is obtained from stainless steel, and reservoir tube wherein ink and an ink follower are packed. There is also disclosed a mechanism comprising the tip and ball held therein by being pressed forward with a spring (paragraphs 1, 5, 24, 26-30, and 34-40). It is well known, as found in Hattori et al. (paragraphs 6-9), that propanol possesses vapor pressure of 14.5 mmHg or 1.93 kPa. Further, given that the ball is made form the same material as presently claimed, it is clear that the ball would inherently possess the same roughness as presently claimed.

In light of the above, it is clear that EP 964036 anticipates the present claims.

**Claim Rejections - 35 USC § 103**

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (U.S. 5,769,931) or EP 964036 either of which in view of Ota et al. (U.S. 6,916,862).

The disclosures with respect to Wang et al. and EP 964036 in paragraphs 6-7 above are incorporated here by reference.

The difference between Wang et al. or EP 964036 and the present claimed invention is the requirement in the claims of specific type of acrylic resin.

Ota et al., which is drawn to ink for ball-point pen, disclose the use of acrylic resin for fixability possessing glass transition temperature not lower than 50 °C, molecular weight of 1,600-50,000, and acid value of 10-250 in order to improve the storage stability of the ink as well as improve the fixability and the gloss of the ink (col.13, lines 27-46 and col.14, lines 1-27).

In light of the motivation for using specific acrylic resin disclosed by Ota et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such acrylic resin in Wang et al. or EP 964036 in order to improve the storage stability of the ink as well as improve the fixability and the gloss of the ink

11. Claims 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ota et al. (U.S. 6,916,862) in view of Kobayashi et al. (U.S. 5,678,942).

The disclosure with respect to Ota et al. in paragraph 5 above is incorporated here by reference.

The difference between Ota et al. and the present claimed invention is the requirement in the claims of specific type of ball-point pen.

Ota et al. disclose the use of ball-point pen comprising ink as presently claimed, however, there is no disclosure of specific type of pen.



Kobayashi et al., which is drawn to ball-point pen, disclose using pen comprising a tip portion of an ink tube and a ball-point pen tip rotatably supporting a ball directly wherein the ink is directly filled in the ink tube. The ball is made of stainless steel. Kobayashi et al. also disclose that the tip includes valve mechanism which presses the ball to the pen tip ridge by a spring impinging on a rear end of the ball which allows the ink to flow out. Kobayashi et al. also disclose using ink following member that is in contact with the end portion of the ink. The motivation for using such pen is to prevent ink flow out and scratchy writing (abstract, col.1, lines 13-38 and 50-62, co.2, line 66-col.3, line 30, col.3, line 1-col.4, line 15, and col.6, line 34-col.7, line 23). Given that Kobayashi et al. disclose using ball made of stainless steel as presently claimed, it is clear that the ball would intrinsically possesses roughness as presently claimed.

In light of the motivation for using specific ball-point pen disclosed by Kobayashi et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such ball-point pen as the pen in Ota et al. in order to prevent ink flow and scratchy writing, and thereby arrive at the claimed invention.

12. Claims 8 and 10 are is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (U.S. 5,769,931) in view of Kobayashi et al. (U.S. 5,678,942).

The disclosure with respect to Wang et al. in paragraph 6 above is incorporated here by reference.

The difference between Wang et al. and the present claimed invention is the requirement in the claims of specific ball-point pen.

Kobayashi et al., which is drawn to ball-point pen, disclose using pen comprising a tip portion of an ink tube, a ball-point pen tip rotatably supporting a ball directly wherein the ink is directly filled in the ink tube. The ball is made of stainless steel. Kobayashi et al. also disclose that the tip includes valve mechanism which presses the ball to the pen tip ridge by a spring impinging on a rear end of the ball which allows the ink to flow out. The motivation for using such pen is to prevent ink flow out and scratchy writing (abstract, col.1, lines 13-38 and 50-62, co.2, line 66-col.3, line 30, col.3, line 1-col.4, line 15, and col.6, line 34-col.7, line 23). Given that Kobayashi et al. disclose using ball made of stainless steel as presently claimed, it is clear that the ball would inherently possesses roughness as presently claimed.

In light of the motivation for using specific ball-point pen disclosed by Kobayashi et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such ball-point pen in Wang et al. in order to prevent ink flow and scratchy writing, and thereby arrive at the claimed invention.

13. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 964036 in view of Kobayashi et al. (U.S. 5,678,942).

The disclosure with respect to EP 964036 in paragraph 7 above is incorporated here by reference.

The difference between EP 964036 and the present claimed invention is the requirement in the claims of specific ball-point pen.

Kobayashi et al., which is drawn to ball-point pen, disclose using pen comprising a tip portion of an ink tube, a ball-point pen tip rotatably supporting a ball directly wherein the ink is

directly filled in the ink tube. Kobayashi et al. disclose that the tip includes valve mechanism which presses the ball to the pen tip ridge by a spring impinging on a rear end of the ball which allows the ink to flow out. Kobayashi et al. also disclose using ink following member that is in contact with the end portion of the ink. The motivation for using such pen is to prevent ink flow out and scratchy writing (abstract, col.1, lines 13-38 and 50-62, co.2, line 66-col.3, line 30, col.3, line 1-col.4, line 15, and col.6, line 34-col.7, line 23).

In light of the motivation for using specific ball-point pen disclosed by Kobayashi et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such ball-point pen in EP 964036 in order to prevent ink flow and scratchy writing, and thereby arrive at the claimed invention.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Caputo et al. (U.S. 5,837,753) disclose ink for pen wherein the ink comprises water, propanol, and acrylic resin, however, the ink comprises dye not pigment as presently claimed.

Tanaka et al. (U.S. 4,824,485) disclose ink jet ink comprising pigment, acrylic latex, and pigment, however, there is no disclosure that the ink is water-based.

EP 1146097 disclosed ink for ball-point pen comprising water, solvent, pigment, water-soluble styrene-acrylic resin, and propanol. However, the only disclosure of viscosity is the examples where the inks do not comprise alcoholic solvent having a vapor pressure of 0.5 kPa or higher or comprise water-soluble resin or solvent in amount outside the scope of the present invention.

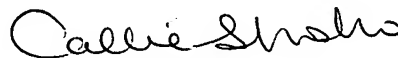
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EP 819737 discloses ink comprising water, pigment, solvent including alcohol, and water-soluble resin. However, the only disclosure of the viscosity is with respect to the examples which, with the exception of one, all disclose viscosity outside the scope of the present claims. While one example discloses using ink with viscosity of 5 mPas, the ink does not comprise resin as presently claimed.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Callie E. Shosho  
Primary Examiner  
Art Unit 1714

CS  
3/20/06